

show that, during their long history, the cockroaches as a group have not remained as idle and stolidly generalized as we have been inclined to believe. In connection with the description by Shelford (The Zoölogist for June, 1907) of an aquatic cockroach (*Rhicnoda natatrix*) from the pools of Borneo, the following observations on a desert species, are worth recording. On November 26, 1910, while I was standing in the hot, glaring sun in the midst of the sandy desert north of Yuma, Arizona, I saw a small swarm of about a dozen insects flying toward me. They settled one after another on the sand, ran hurriedly over its surface for a short distance in the direction of their previous flight and then suddenly took wing again. They seemed to be migrating by alternately flying and running over the sand in a southwesterly direction. A few minutes later another smaller detachment, taking the same course, passed over the same spot. On capturing one of these insects, which behaved so much like certain species of *Cicindela*, I saw, to my surprise, that it was a cockroach of about the size of our common "croton-bug" and of the same pale, grayish yellow color as the sand. I then set about collecting a number of specimens. Some of these were later identified by Mr. J. A. G. Rehn as *Homæogamia subdiaphana* Scudder subsp. *mohavensis* Rehn and Hebard. I walked about over the sandy desert for some hours but no more swarms appeared. Although these observations are very fragmentary, they prove that this Blattid in its adaptation, at least during certain seasons, to an exposed, diurnal life in dry deserts, exhibits a remarkable contrast to our northern cockroaches with their pronounced positive thigmotaxis and negative phototaxis.—W. M. WHEELER.

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF TUESDAY, OCTOBER 18, 1910.

Held at the American Museum of Natural History at 8.15 P. M. In the absence of the president, Dr. E. G. Love was elected to preside. Twenty members and one visitor present.

The minutes of Tuesday, October 4, were read and approved.

The secretary read a communication from the curator, Dr. F. E. Lutz, reporting that arrangements would be made by the Museum authorities to take

care of Dr. Southwick's collection of food plants of insects and that a card catalogue would be provided to make notes concerning food relations and other interesting subjects.

Upon motion of Mr. Engelhardt, Mr. Otto Zeimet was elected an active member of the Society.

The librarian, Mr. Schaeffer, advised the purchase by the society of Blatchley's "Beetles of Indiana." Upon the motion of Mr. Wheat, Mr. Schaeffer was duly authorized to purchase and have bound a copy of this work.

Mr. Davis exhibited and spoke concerning "Some Noteworthy Hemiptera Collected on Long Island." During the past summer he had collected five species of Hemiptera which are usually more common to the south of New York and which have not been hitherto recorded from Long Island, with the exception of the fifth in the list. These were found in the Pine belt of the Island in a territory similar to that of Lakehurst, N. J. The five species mentioned were *Apiomerus crassipcs*, *Lygæus bicrucis*, *Largus succinctus*, *Nezara pennsylvanica*, *Tetyra bipunctata*. He remarked concerning the stridulating organs of the latter insect. Mr. Davis also stated that he had captured a specimen of *Pamphila phylæus* in the garden of Dr. Southwick in Central Park on October 5. It was rather uncommon to find this southern skipper so far north. He mentioned that it had been taken at Lake Hopatcong, N. J., August 29, 1908.

Mr. Engelhardt mentioned that Mr. Jacob Doll had captured *Vanessa milberti* on Eastern Parkway, Brooklyn, and that another had been taken at Sheepshead Bay, Long Island.

Mr. Schaeffer exhibited a few new and interesting Coleoptera about which he had written in the JOURNAL. He also exhibited and discussed *Elateropsis* sp., a beetle from Cuba in which the female was more brightly colored than the male, and *Conops pictus*, a fly mimicing the wasp, *Eumenes colona*. A specimen of *Pieris rapæ* impaled on the hook-like spines of burdock was also shown and commented upon.

Mr. Grossbeck under the title "Further Observations on the Life History of *Emphor bombiformis*" spoke of making various observations on the colonies of this bee to ascertain the duration of the larval and pupal life and thus complete the life history, the study of which was commenced last year and discussed before the society last winter. Specimens and drawings of the various stages of the bees were exhibited as well as a square foot of the soil showing the burrows, the cocoons of the bees, and the pollen balls.

Mr. John W. Angell reported having taken *Cicindela 12-guttata* on October 8, which he considered a late date for its capture.

Mr. Pollard called attention to a recent bulletin of the U. S. Department of Agriculture on the New Mexican range caterpillar, *Hemileuca olivia*, a Bombycine moth, which was commented upon.

Mr. Dickerson exhibited and commented upon an Hemipterous insect, *Ligyrocorus* sp., having three segments in place of four in one antenna.

Mr. Engelhardt mentioned noticing that at Promised Land, Long Island, a

moth, *Anisota senatoria*, had devoured practically all the leaves of the oak which was abundant there.

Society adjourned.

MEETING OF TUESDAY, NOVEMBER 1, 1910.

Held at the American Museum of Natural History, at 8.15 P. M., with President C. W. Leng in the chair and twenty-four members and one visitor present.

The minutes of the preceding meeting were read and approved.

The treasurer, Mr. Davis, reported that the JOURNAL account was short of funds and on motion of Mr. Joutel the treasurer was authorized to transfer the necessary funds from the Society's account.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges:

Stett. Entomol. Zeit., LXXII, No. 1.

Deutsche Entomol. Zeitschrift, 1910, No. 5.

Jahresheft d. Vereins für Schlesische Insektenkunde, 1910, No. 3.

Anales del Museo Nacional, XI, Ser. 3.

Verhandl. d. K. K. Zool. Bot. Gesellschaft Wien, LX, Nos. 4, 5, 6.

New Moths of the Genus *Trichostibas* by August Busk.

Memorias do Inst. Oswaldo Cruz, II, No. 1.

Coleoptera of Indiana by W. S. Blatchley.

Catalogue of Odonata of North America by R. A. Muttkowsky.

The librarian requested that short notes for publication in the JOURNAL be transmitted to the secretary.

The curator, Dr. Lutz, exhibited and spoke of the Coleoptera presented to the local collection by Mr. Angell, also moths presented by Mr. Comstock.

Dr. Osburn exhibited a photograph of Dr. Zabriskie.

Mr. Sleight announced that he had been appointed to receive photographs connected with field trips of the members and exhibited several presented by Mr. Davis and Mr. Engelhardt.

Mr. Grossbeck proposed as active members of the Society, Dr. Wm. T. M. Forbes, of Rutgers College, New Brunswick, N. J., and Mr. E. E. Phillips, 201 Park Ave., Plainfield, N. J.

On motion of Mr. Angell the by-laws were suspended and the secretary instructed to cast a single ballot for the election of these members.

Mr. Groth announced the death of a former member of the Society, Dr. Otto Seifert, on October 20.

On motion of Mr. Harris, Mr. Groth was requested to write for the JOURNAL an obituary notice, including an account of Dr. Seifert's entomological work.

Dr. Southwick read a paper on the "Food of Insects." He particularly discussed the food plants of butterflies and moths, mentioning the special food of most of the United States species. He exhibited mounted specimens of a great many of the plants mentioned, which are to form part of the collection of food plants to be deposited in the Museum and used in connection with the local collection of insects.

Mr. Joutel in speaking of a new species of Cleridæ stated that he had received one specimen from Mrs. Slosson from Franconia, N. H., one specimen from Dr. Felt taken at Saranac Lake, N. Y., and another taken in Maine. In connection with these he exhibited a closely allied species from Europe, *Thanasimus rufipes*, which on closer study may prove to be identical with his species.

Dr. Love exhibited his collection of wasps of the genus *Vespa*. He commented upon the characters and distribution of the different species, mentioning the following species as occurring locally: *crabro*, *carolina*, *diabolica*, *germanica*, *maculata*, *vidua*, *vulgaris*, *consobrina* and *borealis*, the last having been collected by Mr. Davis at Newfoundland, N. J. He remarked that *Vespa communis* is a synonym of *V. vulgaris* and *V. pennsylvanica* a synonym of *V. germanica*. Photographs of the nest and comb as well as specimens were shown to illustrate the life history and development of *V. crabro*. He remarked on the peculiar color of the nest of *V. crabro* and Mr. Davis stated that the difference was due to the fact that this species prefers to use new wood fiber, especially lilac, for the construction of its lighter colored nests.

Mr. Engelhardt remarked that he and Mr. Davis had collected quite a number of the black variety of *Herodes hypophleas* on Long Island. He thought that it was usually not at all common on Long Island but had been informed that it had been taken previously near Brooklyn. He had also taken the melanic form of *Phyciodes tharos* at Yaphank, Long Island.

Mr. Pollard reported that Mr. Comstock had presented a specimen of *Carabus nemoralis* to the Staten Island Association, which had been taken in Newark, N. J., last May.

Society adjourned.

MEETING OF NOVEMBER 15, 1910.

Held at the American Museum of Natural History at 8.15 P. M., with President C. W. Leng in the chair, and twenty-two members and two visitors present.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges:

Canad. Entomol., XLII, Nos. 10, 11.

Zeitschrift f. wissenschaftliche Insektenbiologie, VI, Nos. 8, 9, 10.

Deutsche Entomol. Zeitschrift, 1910, No. 5.

Wiener Entomol. Zeitung, XXIX, Nos. 7, 8.

Japanese Sawflies in the Coll. of the U. S. Nat. Mus. by S. A. Rower.

The Thorax of the Hymenoptera by R. E. Snodgrass.

Coleopterorum Catalogus, parts 20, 21.

Entomol. Blätter, II-VI.

Dr. Lutz announced that Major Wirt Robinson had recently visited the Museum to look at the local collection and had contributed a number of interesting specimens. He also mentioned contributions from Mr. Angell and Mr. Pollard.

Mr. Osburn and Mr. Sleight reported the receipt of a number of photographs to add to the collection.

Mr. Engelhardt presented the name of Mr. Rowland R. McElvare, 231 Decatur St., Brooklyn, as an active member. On motion, the by-laws were suspended and the secretary instructed to cast a single ballot for the election of Mr. McElvare.

Mr. Hallinan, through Mr. Davis, presented two interesting letters to add to the collection of letters of eminent entomologists, one from A. S. Packard, dated October 23, 1871, and the other from Samuel Lockburn, dated May 25, 1869.

Mr. Engelhardt related his travelling experiences in a short trip to the Adirondack Mountains in September, when he visited Ausable Chasin, Keene Valley, Cascade Lakes and Lake Placid. Among others the following insects were shown: Lepidoptera—*Catocala relictata*, *Fylina baileyi*, *petulca*, *disposita*, *unimoda*, *georgii*, *Litholomia napal*, *Lithomoia germana*, *Polia* sp., *Hyphoraia partienos* cocoon, *Notolophus antiqua*, *Dryobota jllocato*; Coleoptera—*Dytiscus harrisii*, *Hydrobius globosus*, *Cicindela repanda*, var. *12-guttata*, *Dicercia prolongata*, *Adelocera brevicornis*, *Meloe angusticollis*, the last named abundant at Cascade Lakes; Orthoptera—*Pezatettix glacialis*, on hazel nut at Lake Placid; Hymenoptera—*Bombus ternarius*, *perplexus*, *fervidus*, *terricola* and an undetermined species; Diptera—*Spilomyia quadrifasciata*, *fusca* and *Conops* sp.

Mr. Olsen read an account of some experiments he had made in rearing *Cormocephala carnifex* in order to determine the life history. As the eggs were sucked dry by the young bugs, he had found it necessary to isolate these as soon as hatched.

Mr. Leng read a paper on "Variable Maculation in Coccinellidæ." He commented on the great range of maculation and tendency to variation in the members of this family and referred to some recent papers by Roswell Johnson and Major Casey in which are described a number of new species founded on slight differences of maculation and which in his opinion should not in many cases be given varietal rank as it is possible to find in a large series intergrading forms. Mr. Leng's entire paper is printed in the body of the JOURNAL.

In this connection Dr. Lutz exhibited specimens of the common asparagus beetle showing three different color variations which had been given varietal names by European Coleopterists. When interbreeding these varieties Dr. Lutz found that they held constant.

Mr. Engelhardt exhibited a number of *Cleis picta* from Claremont, N. H., to show the degree of variation in this species of Coccinellidæ. Mr. Dickerson referred to the range of variation in the Coccinellid, *Hyperaspis signata*, which feeds on the cottony cushion scale of the maple, in which certain specimens had an extra apical spot on the elytra. Mr. Davis exhibited a number of the local species of Coccinellidæ, showing variation in the typical maculation, which in some cases was due to injury in the early stages, in others the right and left elytra were unlike. Mr. Hyde exhibited some cocoons of spiders illustrating an excellent method of preparing these for exhibitions.

Mr. Schaeffer exhibited specimens of butterflies of *Papilio dardanus* subsp.

cenea, showing sexual dimorphism and variation in each of the sexes. These forms represent also *hippocoön* and *trophonius*.

Mr. Comstock stated that he had captured *Vanessa milberti* at Newark during the past summer.

It was moved and carried that work be resumed on the local collection on Saturday afternoon.

Society adjourned.

MEETING OF DECEMBER 6, 1910.

Held at the American Museum of Natural History at 8.15 P. M., with President C. W. Leng in the chair and sixteen members and one visitor present.

The treasurer, Mr. Davis, reported that the society had a balance of \$1,083.84 and the JOURNAL of \$20.59 with all costs of the current volume settled.

The curator, Dr. Lutz, reported that Mr. Sherman had prepared a list of the aquatic Coleoptera in the local collection and that he, Dr. Lutz, had prepared and had typewritten copies of useful synoptic keys for various families especially of certain aquatic groups. He asked for further contributions to these synoptic tables.

Mr. Schaeffer, for the Publication Committee, reported that all manuscript for the fourth number of the JOURNAL had been sent to the printer with the index of the current volume and it was hoped that the December number would be ready for distribution during the month.

Mr. Groth exhibited a few boxes of the collection of Arctiidæ belonging to the late Otto Seifert, particularly some of the specimens with which Dr. Seifert conducted experiments with temperature effects on the early stages. Mr. Groth stated that Dr. Seifert's family had left the entire collection in his hands for disposal and he urged the importance of keeping the experimental collection of Arctiidæ as well as certain other groups of Lepidoptera which had also been the subject of experiment, in the possession of the Society.

Dr. Lutz spoke of the value of this kind of work and said that the Museum, which already had type material of experimental work from Tower and others would be glad to obtain such collections.

Mr. Angell moved that Mr. Groth ascertain if the family of Dr. Seifert were willing to accept \$250.00 for the experimental part of the collection; and in that case to raise the amount by private subscription among the members of the Society and present the collection to the Museum in appreciation of what it had done for the Society.

Mr. William T. Davis stated that eleven species of Cicadidæ had been found within fifty miles of New York City and exhibited specimens of all but one of them. He pointed out how they might be separated and gave some description of the song of each species and also of the distribution as far as known.

As the 17-year Cicada is due in the Hudson River valley in 1911, some attention was paid to the past history of the brood on Staten Island and

extracts were read from the Proceedings of the Staten Island Association for 1894. Between 1877 and 1894 the insect was found on the Island seven different summers, sometimes in considerable numbers as in 1881, when another brood was represented, now known as No. VI. From 1894 to 1911 the presence of the insect was noted during eight years, 1898, as was to be expected, being one of those during which they were quite numerous.

Mr. Barber, under title of "Some Results of Sifting" gave a description of a swamp near Roselle Park N. J., in which he had at various times of the year sifted rather thoroughly. He referred to its excellency as a collecting ground throughout the year but particularly recommended it as a good sifting ground. He exhibited a collection of insects recently taken in sifting there by Mr. Leng, Mr. Davis, Dr. Lutz and himself, among which were a number of good species, especially a new species, representing a new genus of Staphylinidæ. Photographs of the swamp taken by Mr. Davis were also shown.

Mr. Leng referred to a series of *Coccinella 9-notata* from Erie, Pa., taken by Mr. Hallinan and pointed out certain variations in these and compared them with a series of the same species from Fort Wingate, N. Mex.; at one extreme, in the latter series, were almost immaculate forms, corresponding with one of Casey's species; at the other extreme, were forms with the spots well developed, corresponding with the more feebly marked specimens in the series from Erie, Pa. At the other extreme of the Erie series, were many specimens with the spots enlarged and in part coalescent, illustrating the variability of the maculation in both series and the tendency to increased blackness in the more northern form.

MEETING OF DECEMBER 20, 1910.

Held at the American Museum of Natural History at 8.15 P. M. with President C. W. Leng in the chair and twenty-six members and two visitors present.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges:

Deutsche Entomol. Zeitschrift, 1910, No. 6.

Canadian Entomologist, XLII, No. 12.

Coleopterorum Catalogus, parts 22, 23.

Ten papers on Noctuidæ by Professor John B. Smith.

The curator, Dr. Lutz, reported that the local collection had received a number of Macrolepidoptera from the Staten Island Association of Arts and Sciences through the kindness of Mr. Pollard.

Dr. Osburn exhibited photographs, recently acquired by the society, of Geo. H. Horn, Henry Ulke and William T. Davis. On motion of Mr. Davis, the refreshment committee were asked to provide refreshments at the annual meeting on January 3.

Mr. Grossbeck proposed as an active member of the society, Mr. C. R. Plunkett, Flushing, L. I. Upon motion, the by-laws were suspended and the secretary was instructed to cast a single ballot for the election of Mr. Plunkett.

Mr. Pollard moved that the President appoint a committee of three to consult with a similar committee from the Brooklyn Entomological Society, in reference to a joint dinner to be given sometime later in the winter. Carried. The President appointed Messrs. Pollard, Angell and Engelhardt as such committee.

Dr. Southwick moved that a committee be appointed by the chair to nominate candidates for office, so that they could be voted upon at the annual meeting on January 3. The chair appointed Messrs. Southwick, Lutz and Slight as a nominating committee.

The secretary presented the resignations of Dr. J. H. Stebbins, Jr., and Mr. J. R. de la Torre Bueno. Upon motion they were duly accepted.

Dr. Lutz briefly reviewed a number of recent entomological contributions to the literature of evolution, laying special emphasis upon the relation between chromosomes and sex, and the inheritance of sexually dichromatic variations.

Dr. Osburn under the title "Remarks on the Genus *Syrphus* Auctt" stated that it was a large genus containing 225 species, 64 of which occur in the United States, and 9 or 10 locally within the fifty-mile limit. He mentioned the characters used in the classification of this group and spoke of the synonymy which is in rather a tangled condition. Dr. Osburn exhibited his collection and also a specimen of *Conops* reared by Mr. Engelhardt from a *Bombus* collected at Yaphank, L. I.

Mr. Hallinan exhibited a number of Panama dragonflies. He remarked that a lizard which was common in Panama fed upon these insects, as he found out by examining the contents of its stomach. He suggested that therefore possibly the lizard indirectly helps to cause the abundance of mosquitoes.

Mr. Schaeffer exhibited specimens of different species of beetles which were captured *in coitu*, for instance: *Lycostomus femoratus* ♂ *in coitu* with *Lycostomus loripes* ♀ and *Diachus catarius* ♂ *in coitu* with *Diachus auratus* ♀.

Mr. Charles L. Pollard, under the title "A Remarkable Dragonfly," discussed the specimen taken by him at Wilmington, N. C., August 1, 1909, which was determined by Currie as *Gomphoides ambigua*, a Mexican species not heretofore reported from the United States. Mr. Pollard stated that the insect had been submitted for examination to Professor Philip P. Calvert, who considered it to exhibit characters midway between *Gomphoides ambigua* and *G. producta*, so that it is scarcely referable to any existing species. In any case it is the northernmost record for any dragonfly of this essentially tropical genus.

Society adjourned.

H. G. BARBER,
Secretary.